FOR
FCC
USE
ONLY

FCC 302-AM

APPLICATION FOR AM

BROADCAST STATION LICENSE

(Please read instructions before filling out form.)

FOR COMMISSION USE ONLY

FILE NO. *BMML-20091124AJE*

SECTION I - APPLICANT FEE INFORMATION

1. PAYOR NAME (Last, First, Middle Initial)

EL SOL BROADCASTING, LLC

MAILING ADDRESS (Line 1) (Maximum 35 characters)
1530 NORTH CASS STREET, SUITE A

MAILING ADDRESS (Line 2) (Maximum 35 characters)

CITY MIKWAUKEE	STATE OR COUNTRY (if foreign address) WI	ZIP CODE 53202
TELEPHONE NUMBER (include area code) 414-899-9902	CALL LETTERS WJTI	OTHER FCC IDENTIFIER (If applicable) 68759

2. A. Is a fee submitted with this application? [✓] Yes [ ] No

B. If No, indicate reason for fee exemption (see 47 C.F.R. Section

[ ] Governmental Entity   [ ] Noncommercial educational licensee   [ ] Other (Please explain):

C. If Yes, provide the following information:

Enter in Column (A) the correct Fee Type Code for the service you are applying for. Fee Type Codes may be found in the "Mass Media Services Fee Filing Guide." Column (B) lists the Fee Multiple applicable for this application. Enter fee amount due in Column (C).

(A) FEE TYPE CODE	(B) FEE MULTIPLE	(C) FEE DUE FOR FEE TYPE CODE IN COLUMN (A)	FOR FCC USE ONLY
M M R	0 0 0 1	$ 615.00	

To be used only when you are requesting concurrent actions which result in a requirement to list more than one Fee Type Code.

(A)	(B)	(C)	FOR FCC USE ONLY
M O R	0 0 0 1	$ 705.00	

ADD ALL AMOUNTS SHOWN IN COLUMN C, AND ENTER THE TOTAL HERE. THIS AMOUNT SHOULD EQUAL YOUR ENCLOSED REMITTANCE.	TOTAL AMOUNT REMITTED WITH THIS APPLICATION $ 1320.00	FOR FCC USE ONLY

SECTION II - APPLICANT INFORMA ?			
1. NAME OF APPLICANT EL SOL BROADCASTING, LLC			
MAILING ADDRESS 1530 NORTH CASS STREET, SUITE A			
CITY MILWAUKEE	STATE WI		ZIP CODE 53202

2. This application is for:

[✓] Commercial   [ ] Noncommercial

[✓] AM Directional   [ ] AM Non-Directional

Call letters WJTI	Community of License WEST ALLIS	Construction Permit File No. BP-20060728ACH	Modification of Construction Permit File No(s). BMP-20081119AHW	Expiration Date of Last Construction Permit 11-22-09

3. Is the station now operating pursuant to automatic program test authority in accordance with 47 C.F.R. Section 73.1620?

If No, explain in an Exhibit.

[ ] Yes [✓] No

Exhibit No.
A

4. Have all the terms, conditions, and obligations set forth in the above described construction permit been fully met?

If No, state exceptions in an Exhibit.

[✓] Yes [ ] No

Exhibit No.

5. Apart from the changes already reported, has any cause or circumstance arisen since the grant of the underlying construction permit which would result in any statement or representation contained in the construction permit application to be now incorrect?

If Yes, explain in an Exhibit.

[ ] Yes [✓] No

Exhibit No.

6. Has the permittee filed its Ownership Report (FCC Form 323) or ownership certification in accordance with 47 C.F.R. Section 73.3615(b)?

If No, explain in an Exhibit.

[✓] Yes [ ] No

[ ] Does not apply

Exhibit No.

7. Has an adverse finding been made or an adverse final action been taken by any court or administrative body with respect to the applicant or parties to the application in a civil or criminal proceeding, brought under the provisions of any law relating to the following: any felony; mass media related antitrust or unfair competition; fraudulent statements to another governmental unit; or discrimination?

If the answer is Yes, attach as an Exhibit a full disclosure of the persons and matters involved, including an identification of the court or administrative body and the proceeding (by dates and file numbers), and the disposition of the litigation.   Where the requisite information has been earlier disclosed in connection with another application or as required by 47 U.S.C. Section 1.65(c), the applicant need only provide: (i) an identification of that previous submission by reference to the file number in the case of an application, the call letters of the station regarding which the application or Section 1.65 information was filed, and the date of filing; and (ii) the disposition of the previously reported matter.

[ ] Yes [✓] No

Exhibit No.
N/A

8. Does the applicant, or any party to the application, have a petition on file to migrate to the expanded band (1605-1705 kHz) or a permit or license either in the existing band or expanded band that is held in combination (pursuant to the 5 year holding period allowed) with the AM facility proposed to be modified herein?

☐ Yes ☒ No

If Yes, provide particulars as an Exhibit.

Exhibit No. [   ]

The APPLICANT hereby waives any claim to the use of any particular frequency or of the electromagnetic spectrum as against the regulatory power of the United States because use of the same, whether by license or otherwise, and requests and authorization in accordance with this application. (See Section 304 of the Communications Act of 1934, as amended).
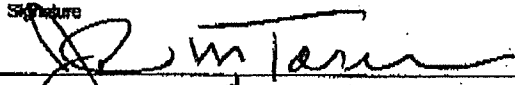
The APPLICANT acknowledges that all the statements made in this application and attached exhibits are considered material representations and that all the exhibits are a material part hereof and are incorporated herein as set out in full in

CERTIFICATION

1. By checking Yes, the applicant certifies, that, in the case of an individual applicant, he or she is not subject to a denial of federal benefits that includes FCC benefits pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C. Section 862, or, in the case of a non-individual applicant (e.g., corporation, partnership or other unincorporated association), no party to the application is subject to a denial of federal benefits that includes FCC benefits pursuant to that section. For the definition of a "party" for these purposes, see 47 C.F.R. Section 1.2002(b).

☒ Yes ☐ No

2. I certify that the statements in this application are true, complete, and correct to the best of my knowledge and belief, and are made in good faith.

Name	Signature
John M. Torres	JM Torre
Title	Date	Telephone Number
Owner/Manager	11-19-99	414-899-9902

WILLFUL FALSE STATEMENTS ON THIS FORM ARE PUNISHABLE BY FINE AND/OR IMPRISONMENT (U.S. CODE, TITLE 18, SECTION 1001), AND/OR REVOCATION OF ANY STATION LICENSE OR CONSTRUCTION

Exhibit A

Program test authority is requested

Name of Applicant

El Sol Broadcasting, LLC

PURPOSE OF AUTHORIZATION APPLIED FOR: (check one)

☒ Station License   ☐ Direct Measurement of Power

1. Facilities authorized in construction permit

Call Sign	File No. of Construction Permit (if applicable)	Frequency (kHz)	Hours of Operation	Power in kilowatts	
				Night	Day
WJTI	BMP-20081119AHW	1460	U	0.24	1.0

2. Station location

State	City or Town
Wisconsin	West Allis

3. Transmitter location

State	County	City or Town	Street address (or other identification)
Wisconsin	Milwaukee	West Allis	1935 S. 98th Street

4. Main studio location

State	County	City or Town	Street address (or other identification)
Wisconsin	Milwaukee	Milwaukee	611 W. National Ave. Suite 201

5. Remote control point location (specify only if authorized directional antenna)

State	County	City or Town	Street address (or other identification)
			611 W. National Ave. Suite 201

6. Has type-approved stereo generating equipment been installed?   ☐ Yes   ☒ No

7. Does the sampling system meet the requirements of 47 C.F.R. Section 73.68?   ☒ Yes   ☐ No

          ☐ Not Applicable

Exhibit No.

Attach as an Exhibit a detailed description of the sampling system as installed.

8. Operating constants:

RF common point or antenna current (in amperes) without modulation for night system 2.28	RF common point or antenna current (in amperes) without modulation for day system 4.65

Measured antenna or common point resistance (in ohms) at operating frequency		Measured antenna or common point reactance (in ohms) at operating frequency	
Night	Day	Night	Day
50.0	50.0	-J8.8	-J13

Antenna indications for directional operation

Towers	Antenna monitor Phase reading(s) in degrees		Antenna monitor sample current ratio(s)		Antenna base currents	
	Night	Day	Night	Day	Night	Day
#1	128	1.0	0.82	0.615		
#2	0	1.24	1.0	0.96		
#3	-114.5	---	0.625			
#4	101.5	---	0.42			
#5	---	-128	---	0.67		
#6	---	0	---	1.0		

Manufacturer and type of antenna monitor: Potomac AM-19 (204)

9. Description of antenna system (If directional antenna is used, the information requested below should be given for each element of the array. Use separate sheets if necessary.)

Type Radiator (6) Uniform cross section guyed steel towers	Overall height in meters of radiator above base insulator, or above base, if grounded.	Overall height in meters above ground (without obstruction lighting)	Overall height in meters above ground (include obstruction lighting)	If antenna is either top loaded or sectionalized, describe fully in an Exhibit. Exhibit No.
	48.1	49	49	

Excitation   ☒ Series   ☐ Shunt

Geographic coordinates to nearest second. For directional antenna give coordinates of center of array. For single vertical radiator give tower location.

North Latitude	43 °	00 '	32 "	West Longitude	88 °	02 '	06 "

If not fully described above, attach as an Exhibit further details and dimensions including any other antenna mounted on tower and associated isolation circuits.

Exhibit No.

Also, if necessary for a complete description, attach as an Exhibit a sketch of the details and dimensions of ground system.
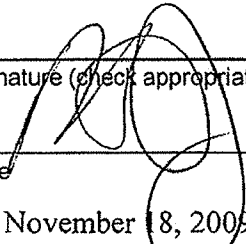
Exhibit No.

10. In what respect, if any, does the apparatus constructed differ from that described in the application for construction permit or in the permit?

None

11. Give reasons for the change in antenna or common point resistance.

I certify that I represent the applicant in the capacity indicated below and that I have examined the foregoing statement of technical information and that it is true to the best of my knowledge and belief.

Name (Please Print or Type) R. Stuart Graham	Signature (check appropriate box below)
Address (include ZIP Code) Graham Brock, Inc. P. O. Box 24466 St. Simons Island, GA 31522-7466	Date November 18, 2009
	Telephone No. (Include Area Code) 912-638-8028

☐ Technical Director   ☐ Registered Professional Engineer

☐ Chief Operator   ☒ Technical Consultant

☐ Other (specify)

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August 1995

APPLICATION FOR STATION LICENSE
EL SOL BROADCASTING, LLC
WJTI AM RADIO STATION
1460 kHz - 0.24/1.0 KW DA2
WEST ALLIS, WISCONSIN
November 2009

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<u>November 2009</u>

This Technical Statement was prepared on behalf of El Sol Broadcasting, LLC ("El Sol"),

licensee of radio station WJTI, 1460 kHz, Racine, Wisconsin. El Sol holds an outstanding

permit to change city of license to West Allis, Wisconsin and operate from an existing directional

antenna site with separate daytime and nighttime directional arrays, as authorized under BMP-

20081119AHW. This application seeks a license to cover the outstanding permit.

The towers and ground system are currently in use by AM station WGLB and comply

with the terms of the construction permit and specifications that were provided in the application

for construction permit.

Information is provided herein demonstrating the directional antenna parameters for the

daytime and nighttime directional patterns authorized by the construction permit have been

determined to be in accordance with the requirements of Section 73.151(c) of the Commission's

rules. The system has been adjusted to produce antenna monitor parameters within +/- 5 percent

in ratio and +/- 3 degrees in phase of the modeled values, as required by the rules.

There are five special operating conditions and/or restrictions listed on the permit.

Condition #1 states:

"The permittee/licensee in coordination with other users of the site must reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency electromagnetic fields in excess of FCC guidelines."

This application recognizes their responsibility in this matter, and El Sol pledges compliance.

Condition #2 states:

"The permittee must submit a proof of performance as set forth in either Section 73.151(a) or 73.151(c) of the rules before program tests are authorized. A proof of performance based on field strength measurements, per Section 73.151(a), shall include a complete nondirectional proof of performance, in addition to a complete proof on the day and night directional antenna system. The nondirectional and directional field strength measurements must be made under similar environmental conditions. The proof(s) of performance submitted to the Commission must contain all of the data specified in Section 73.186 of the rules. Permittees who elect to submit a moment method proof of performance, as set forth in Section 73.151(c), must use series-fed radiators. In addition, the sampling system must be constructed as described in Section 73.151(c)(2)(i).

This application and supporting documents are filed in compliance with this condition.

Condition #3 states:

"Permittee shall install a type accepted transmitter, or submit application (FCC Form 301) along with data prescribed in Section 73.1660(b) should non-type accepted transmitter be proposed.

El Sol has installed a Broadcast Electronics AM-1 Transmitter, which is type accepted and approved at the permitted power.

Condition #4 states:

"Before program tests are authorized, sufficient data shall be submitted to show that adequate filters, traps and other equipment has been installed and adjusted to prevent interaction, intermodulation and/or generation of spurious radiation products which may be caused by common usage of the same antenna system by Stations WJTI (Facility ID #68759) and WGLB (Facility ID #73050) and there shall be filed with the license application copies of a firm agreement entered into by the two (2) stations involved clearly fixing the responsibility of each with regard to the installation and maintenance of such equipment. In addition, field observations shall be made to determine whether spurious emissions exist and any objectionable problems resulting therefrom shall be eliminated. Following construction, and prior to authorization of program test under this grant, Stations WJTI (Facildity ID #68759) and WGLB (Facility ID #73050) shall each measure antenna or common point resistance and submit FCC Form 302 as application notifying the return to direct measurement of power.

The applicant has installed filters on each tower structure which prevents interaction, intermodulation and/or generation of spurious radiation products that may be caused by common usage of the same antenna system by the two stations. In addition, field observations have been made to demonstrate the lack of spurious emissions. These measurements and depictions of the installed filters are included with this application.

Condition #5 states:

The ground system consists of 120 equally spaced, buried, copper radials about the base of each tower, each 47.86 meters in length, except where terminated by property boundaries or where intersecting radials are shortened and bonded to a transverse copper strap midway between adjacent towers.

El Sol recognizes the proper construction of the ground system, and the ground system is constructed as described in the condition.

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EXHIBIT #1

Analysis of Tower Impedance Measurements to Verify Method of Moments Model

Tower base impedance measurements were made at the final J-plugs within the Antenna Tuning Units ("ATUs") using an Array Solutions, POWER AIM 120, Vector Impedance Analyzer in a calibrated measurement system. The other towers were all open circuited at the same points where impedance measurements were made (the "reference points") for each of the measurements, in compliance with Section73.151(c)(1).

The reference point in each ATU is followed by the feed-line that exits the ATU enclosure and is connected to the tower above the base insulator. Circuit calculations were performed to relate the Method of Moments modeled impedances of the tower feed points to the ATU output measurement (reference) points, as shown on the following pages. The X(L) shown for each tower, which was calculated for the assumed stray inductance, was less than 10 uH, in compliance with Section 73.151(c)(1)(vii).

The modeled and measured base impedances at the ATU output jacks with the other towers open circuited at their ATU output jacks agree within +/- 2 ohms and +/- 4 percent for resistance, as required by Section 73.151(c)(2) of the FCC Rules.

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Moment Calculation Tower	FCC Array Tower	FCC Array Tower	Antenna Monitor Tower	L(uH)	X(L)	Z(modeled)	Z(atu)(modeled)	Z(atu)(measured)
1 (ne)	1		6	3.19	+j 29.2	38.0 +j 23.8	38.0 +j 53.0	38.0 +j 53.0
2 (se)	2		5	3.04	+j 27.9	40.6 +j 24.8	40.6 +j 52.7	40.7 +j 52.7
3 (center sw)	3	2	2	5.45	+j 50.0	33.1 +j 1.6	33.1 +j 51.6	33.2 +j 51.6
4 (sw)	4	1	1	0.25	+j 2.3	48.4 +j 49.9	48.4 +j 52.2	51.3 +j 52.2
5 (center nw)		3	3	0.15	+j 1.4	45.4 +j 46.0	45.4 +j 47.4	46.8 +j 47.4
6 (nw)		4	4	1.90	+j 17.5	45.7 +j 36.3	45.7 +j 53.8	45.6 +j 53.8

X(L) = Assumed Series Inductance per §73.151, c, 1, vii

Moment Tower	Z (measured) Resistance	2 + 4 %	+/- Tolerance	Z (modeled) Resistance
1 (ne)	38.0	3.52	41.52 34.48	38.0
	Reactance	2 + 4 %	+/- Tolerance	Reactance
	23.8	2.95	26.72 20.82	23.8
Moment Tower	Z (measured) Resistance	2 + 4 %	+/- Tolerance	Z (modeled) Resistance
2 (se)	40.7	3.63	44.33 37.07	40.6
	Reactance	2 + 4 %	+/- Tolerance	Reactance
	24.8	2.99	27.83 21.85	24.8
Moment Tower	Z (measured) Resistance	2 + 4 %	+/- Tolerance	Z (modeled) Resistance
3 (center sw)	33.2	3.33	36.53 29.87	33.1
	Reactance	2 + 4 %	+/- Tolerance	Reactance
	1.6	2.06	3.64 -0.48	1.6
Moment Tower	Z (measured) Resistance	2 + 4 %	+/- Tolerance	Z (modeled) Resistance
4 (sw)	51.3	4.05	55.35 47.25	48.4
	Reactance	2 + 4 %	+/- Tolerance	Reactance
	49.9	3.99	53.86 45.88	49.9
Moment Tower	Z (measured) Resistance	2 + 4 %	+/- Tolerance	Z (modeled) Resistance
5 (center nw)	46.8	3.87	50.67 42.93	45.4
	Reactance	2 + 4 %	+/- Tolerance	Reactance
	46.0	3.84	49.87 42.19	46.0
Moment Tower	Z (measured) Resistance	2 + 4 %	+/- Tolerance	Z (modeled) Resistance
6 (nw)	45.6	3.82	49.42 41.78	45.7
	Reactance	2 + 4 %	+/- Tolerance	Reactance
	36.3	3.45	39.78 32.88	36.3

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EXHIBIT #2

Derivation of Operating Parameters for Directional Antenna

The Method of Moments model of the array, following verification with the measured individual open circuited base impedances, was utilized for directional antenna calculations. Calculations were made to determine the complex voltage values for sources located at ground level under each tower of the array to produce current moment sums for the towers that, when normalized, equated to the theoretical field parameters of the authorized directional antenna pattern. With these voltage sources, the tower currents were calculated. Ten segments were used for each tower, so that the modeled current pulse at the base of the tower would correspond to the toroid pick-up at the output of the ATU. As the tower structures, sampling pickups and sampling lines are identical within the required tolerance per Section 73.151(c), the antenna monitor ratios and phases corresponding to the theoretical parameters were calculated directly from the modeled tower currents.

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Day

Moment Calculation Tower	FCC Array Tower	Antenna Monitor Tower	Current Magnitude (amperes)	Current Phase (degrees)	Moment Method Calculations of Antenna Monitor Values		As Adjusted Antenna Monitor Values	
					Ratio	Phase	Ratio	Phase
1 (ne)	1	6	6.21	0.00	1.000	0.0	1.000	0.0
2 (se)	2	5	4.16	-128.69	0.670	-128.7	0.670	-128.0
3 (center sw)	3	2	6.22	122.57	1.002	122.6	0.960	124.0
4 (sw)	4	1	3.81	1.32	0.614	1.3	0.615	1.0

Night

Moment Calculation Tower	FCC Array Tower	Antenna Monitor Tower	Current Magnitude (amperes)	Current Phase (degrees)	Moment Method Calculations of Antenna Monitor Values		As Adjusted Antenna Monitor Values	
					Ratio	Phase	Ratio	Phase
4 (sw)	1	2	3.27	0.00	1.000	0.0	1.000	0.0
3 (center sw)	2	1	2.68	128.24	0.820	128.2	0.820	128.0
5 (center nw)	3	3	2.04	-114.41	0.624	-114.4	0.625	-114.5
6 (nw)	4	4	1.38	100.83	0.422	100.8	0.420	101.0

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EXHIBIT #3

Method of Moments Model Details for Towers Driven Individually

The array of towers was modeled using Westberg Engineering Phasor Profession

2.1.1.12. One wire was used to represent each tower. The electrical length of each tower was

specified using degrees at the operating frequency of 1460 kHz (1.46 MHz), as taken from the

theoretical directional antenna specifications. Each tower was modeled using 10 segments. As

the towers are 84.2 degrees in electrical height, the segment length is 9.36 electrical degrees, in

compliance with Section 73.151(c)(1)(iii).

The individual tower characteristics were adjusted to provide a match of their modeled

impedances, when presented to a circuit model, that included branches representing the stray

feed-line hookup inductances at the tower bases, with the base impedances that were measured at

the output jacks of the Antenna Tuning Units, while the other towers of the array were open

circuited. The Method of Moments model assumed loads at ground level having the reactance

that was calculated for them using the base circuit models for the open circuited towers of the

array.

Each tower's modeled height, relative to its physical height, falls within the required

range of 75% to 125% in compliance with Section 73.151(c)(1)(v). Each tower's modeled

radius falls within the range of 80% to 150% of the radius of a circle having a circumference equal to the sum of the widths of the tower sides in compliance with Section 73.151(c)(1)(i). The array consists of identical, uniform cross section towers having a face of 15.5 inches.

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Moment Calculation Tower	Antenna Monitor Tower	Physical Height (degrees)	Velocity Factor Adjustment	Modeled Height (degrees)	Modeled Percent of Height	Physical Equivalent Radius (inches)	Modeled Radius (inches)	Percent of Equivalent Radius
1 (ne)	6	84.2	0.92350	91.17	108.3%	7.1591	7.1591	100.0%
2 (se)	5	84.2	0.92050	91.47	108.6%	7.1591	7.1591	100.0%
3 (center sw)	2	84.2	0.96450	87.30	103.7%	7.1591	7.1591	100.0%
4 (sw)	1	84.2	0.87950	95.74	113.7%	7.1591	7.1591	100.0%
5 (center nw)	3	84.2	0.88550	95.09	112.9%	7.1591	7.1591	100.0%
6 (nw)	4	84.2	0.90550	92.99	110.4%	7.1591	7.1591	100.0%

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EXHIBIT #4

Method of Moments Model Details for Directional Antenna

The array of towers was modeled using Westberg Engineering Phasor Profession 2.1.1.12

with the individual tower characteristics that were verified by the individual tower impedance

measurements. Calculations were made to determine the complex voltage values for sources

located at ground level under each tower of the array to produce current moment sums for the

tower that, when normalized, equated to the theoretical field parameters of the authorized

directional antenna pattern. The following pages contain details of the method of moments

model of the directional antenna patterns for both daytime and nighttime operation.

STATION INFORMATION		
Call Letters	No. Towers	Frequency
WJTI	6	1.4600

TOWER INFORMATION						
	Tower Height (°)	Spacing (°)	Orientation	Face Width (in.)	Radius (in.)	Velocity Factor
Tower 1	84.2000	0.0000	0.0000	15.5000 / 15.5000	7.1591 / 7.1591	0.923500
Tower 2	84.2000	65.5000	205.0000	15.5000 / 15.5000	7.1591 / 7.1591	0.920500
Tower 3	84.2000	56.0000	270.0000	15.5000 / 15.5000	7.1591 / 7.1591	0.964500
Tower 4	84.2000	102.8000	234.7000	15.5000 / 15.5000	7.1591 / 7.1591	0.879500
Tower 5	84.2000	65.9000	334.3000	15.5000 / 15.5000	7.1591 / 7.1591	0.885500
Tower 6	84.2000	118.7000	359.6000	15.5000 / 15.5000	7.1591 / 7.1591	0.905500

MATRIX INFORMATION		
	Impedance (other towers open)	Impedance (other towers shorted)
Tower 1	38.01 + j23.77	11.86 + j44.32
Tower 2	40.63 + j24.84	14.77 + j48.99
Tower 3	33.13 + j1.58	6.59 + j24.22
Tower 4	48.41 + j49.87	18.28 + j74.71
Tower 5	45.43 + j46.03	4.34 + j71.61
Tower 6	45.65 + j36.33	46.02 + j57.79

DETUNED TOWER CURRENTS
Tower 1
0.000000 > 0.000000 - 84.20° above ground
0.049970 > -99.425210 - 74.84° above ground
0.075703 > -101.083251 - 65.49° above ground
0.084565 > -102.917214 - 56.13° above ground
0.076396 > -105.137255 - 46.78° above ground
0.050747 > -108.799985 - 37.42° above ground
0.008414 > -144.546869 - 28.07° above ground
0.057526 > 80.212850 - 18.71° above ground
0.142993 > 75.882384 - 9.36° above ground
0.286122 > 73.704835 - 0.00° above ground
Tower 2
0.000000 > 0.000000 - 84.20° above ground
0.050170 > -99.197942 - 74.84° above ground
0.076034 > -100.863441 - 65.49° above ground
0.084961 > -102.715276 - 56.13° above ground
0.076779 > -104.966134 - 46.78° above ground
0.051029 > -108.689512 - 37.42° above ground
0.008543 > -144.741992 - 28.07° above ground
0.057796 > 80.480108 - 18.71° above ground
0.143694 > 76.059820 - 9.36° above ground
0.287486 > 73.830285 - 0.00° above ground
Tower 3
0.000000 > 0.000000 - 84.20° above ground
0.050066 > -89.990898 - 74.84° above ground
0.075292 > -92.221267 - 65.49° above ground
0.083690 > -94.626545 - 56.13° above ground
0.075364 > -97.474362 - 46.78° above ground
0.050021 > -102.097351 - 37.42° above ground
0.009157 > -143.765877 - 28.07° above ground
0.056957 > 89.276268 - 18.71° above ground
0.141271 > 83.909494 - 9.36° above ground
0.283991 > 81.239873 - 0.00° above ground

Tower 4
0.000000 > 0.000000 - 84.20° above ground
0.042957 > -138.342890 - 74.84° above ground
0.065637 > -138.556772 - 65.49° above ground
0.073778 > -138.771158 - 56.13° above ground
0.066959 > -138.981608 - 46.78° above ground
0.044586 > -139.236240 - 37.42° above ground
0.005968 > -141.609936 - 28.07° above ground
0.049968 > 41.321841 - 18.71° above ground
0.125118 > 41.142935 - 9.36° above ground
0.249576 > 41.123132 - 0.00° above ground
Tower 5
0.000000 > 0.000000 - 84.20° above ground
0.053490 > -98.877833 - 74.84° above ground
0.081236 > -100.534645 - 65.49° above ground
0.090813 > -102.416962 - 56.13° above ground
0.081995 > -104.737602 - 46.78° above ground
0.054320 > -108.614834 - 37.42° above ground
0.008974 > -147.142555 - 28.07° above ground
0.062160 > 80.839279 - 18.71° above ground
0.153519 > 76.288541 - 9.36° above ground
0.304924 > 73.975799 - 0.00° above ground
Tower 6
0.000000 > 0.000000 - 84.20° above ground
0.038771 > -153.467645 - 74.84° above ground
0.059048 > -153.337246 - 65.49° above ground
0.066152 > -153.198990 - 56.13° above ground
0.059771 > -153.017784 - 46.78° above ground
0.039471 > -152.678258 - 37.42° above ground
0.004777 > -148.121571 - 28.07° above ground
0.045148 > 26.453992 - 18.71° above ground
0.111796 > 26.907656 - 9.36° above ground
0.222055 > 27.168238 - 0.00° above ground

ZMatrix					
38.01 + j23.77	27.13 - j14.22	27.56 - j10.84	14.19 - j25.98	28.15 - j14.58	7.28 - j23.55
27.13 - j14.22	40.63 + j24.84	25.81 - j14.63	34.98 - j10.95	5.39 - j26.46	-15.38 - j15.39
27.56 - j10.84	25.81 - j14.63	33.13 + j1.58	27.88 - j14.51	25.74 - j13.83	1.57 - j21.91
14.19 - j25.98	34.98 - j10.95	27.88 - j14.51	48.41 + j49.87	0.13 - j27.81	-19.94 - j11.20
28.15 - j14.58	5.39 - j26.46	25.74 - j13.83	0.13 - j27.81	45.43 + j46.03	32.84 - j12.88
7.28 - j23.55	-15.38 - j15.39	1.57 - j21.91	-19.94 - j11.20	32.84 - j12.88	45.65 + j36.33

YMatrix					
0.005635 - j0.021053	0.002626 + j0.006238	-0.003375 + j0.015437	-0.000875 - j0.002372	0.000442 + j0.004062	0.001601 + j0.001777
0.002626 + j0.006238	0.005642 - j0.018711	-0.002197 + j0.009794	0.001583 + j0.005875	-0.000332 - j0.002109	-0.000494 - j0.000660
-0.003375 + j0.015437	-0.002197 + j0.009794	0.010463 - j0.038437	0.002202 + j0.010556	0.001427 + j0.011524	0.001392 + j0.000853
-0.000875 - j0.002372	0.001583 + j0.005875	0.002202 + j0.010556	0.003090 - j0.012628	-0.000290 - j0.001567	-0.000361 - j0.000293
0.000442 + j0.004062	-0.000332 - j0.002109	0.001427 + j0.011523	-0.000290 - j0.001567	0.000843 - j0.013914	0.001978 + j0.006966
0.001601 + j0.001777	-0.000494 - j0.000660	0.001392 + j0.000853	-0.000361 - j0.000293	0.001978 + j0.006966	0.008432 - j0.010589

HMatrix - [I] = [H] X [F]					
0.027852 + j0.002181	0.000340 + j0.001631	0.000104 + j0.001776	0.000938 + j0.000956	0.000349 + j0.001618	0.001062 + j0.000655
0.000339 + j0.001640	0.027683 + j0.002189	0.000346 + j0.001640	0.000120 + j0.001764	0.001061 + j0.000653	0.000879 - j0.000384
0.000124 + j0.001651	0.000338 + j0.001516	0.030148 + j0.002041	0.000332 + j0.001512	0.000327 + j0.001518	0.001028 + j0.000394
0.001017 + j0.001039	0.000099 + j0.001908	0.000346 + j0.001769	0.025346 + j0.002347	0.001184 + j0.000444	0.000754 - j0.000611
0.000355 + j0.001741	0.001135 + j0.000698	0.000338 + j0.001758	0.001172 + j0.000440	0.025689 + j0.002325	0.000349 + j0.001744
0.001102 + j0.000679	0.000908 - j0.000397	0.001148 + j0.000438	0.000721 - j0.000581	0.000350 + j0.001682	0.026838 + j0.002253

HMatrix-Inverse - [F] = [H]$^{-1}$ X [I]					
35.491325 - j2.444160	-0.817926 - j1.738589	-0.549783 - j1.765247	-1.643404 - j0.898418	-0.855713 - j1.803440	-1.494483 - j0.456772
-0.818650 - j1.748679	35.667374 - j2.625296	-0.837924 - j1.659159	-0.606834 - j2.252282	-1.688633 - j0.334442	-0.980457 + j1.007229
-0.540182 - j1.632902	-0.793454 - j1.527508	32.747857 - j1.969737	-0.796257 - j1.654312	-0.752917 - j1.526993	-1.290773 - j0.083258
-1.785123 - j0.979666	-0.613892 - j2.445478	-0.884656 - j1.948124	38.974687 - j3.396951	-1.929272 + j0.008544	-0.765714 + j1.413658
-0.895133 - j1.945162	-1.809465 - j0.359432	-0.826538 - j1.779018	-1.909194 + j0.006725	38.453471 - j3.150141	-0.784005 - j2.271177
-1.549250 - j0.472576	-1.011153 + j1.041485	-1.443986 - j0.090602	-0.728860 + j1.345675	-0.771743 - j2.186328	36.984197 - j3.048204

TOWER CURRENTS
Mode 1

Tower 1
0.000000 > 0.000000 - 84.20° above ground
1.415009 > -3.781925 - 74.84° above ground
2.554347 > -3.565496 - 65.49° above ground
3.572044 > -3.326337 - 56.13° above ground
4.455431 > -3.049477 - 46.78° above ground
5.186539 > -2.720384 - 37.42° above ground
5.746646 > -2.319776 - 28.07° above ground
6.119053 > -1.817357 - 18.71° above ground
6.289818 > -1.162243 - 9.36° above ground
6.210129 > 0.000000 - 0.00° above ground

Tower 2
0.000000 > 0.000000 - 84.20° above ground
1.063864 > -126.044629 - 74.84° above ground
1.908295 > -126.277932 - 65.49° above ground
2.649411 > -126.503704 - 56.13° above ground
3.276936 > -126.731444 - 46.78° above ground
3.776640 > -126.971178 - 37.42° above ground
4.133731 > -127.237625 - 28.07° above ground
4.334511 > -127.554017 - 18.71° above ground
4.366239 > -127.959258 - 9.36° above ground
4.155356 > -128.694887 - 0.00° above ground

Tower 3
0.000000 > 0.000000 - 84.20° above ground
1.272980 > 122.614016 - 74.84° above ground
2.308952 > 122.708234 - 65.49° above ground
3.249804 > 122.778539 - 56.13° above ground
4.085797 > 122.824603 - 46.78° above ground
4.802451 > 122.844993 - 37.42° above ground
5.384515 > 122.837961 - 28.07° above ground
5.818967 > 122.800487 - 18.71° above ground
6.096363 > 122.727166 - 9.36° above ground
6.220209 > 122.571402 - 0.00° above ground

Tower 4
0.000000 > 0.000000 - 84.20° above ground
0.870765 > -4.967500 - 74.84° above ground
1.579488 > -4.513016 - 65.49° above ground
2.215307 > -4.043135 - 56.13° above ground
2.767806 > -3.536285 - 46.78° above ground
3.223478 > -2.969790 - 37.42° above ground
3.568798 > -2.311523 - 28.07° above ground
3.791973 > -1.511067 - 18.71° above ground
3.883350 > -0.484457 - 9.36° above ground
3.806667 > 1.317524 - 0.00° above ground

Tower 5
0.000000 > 0.000000 - 84.20° above ground
0.022260 > -25.730728 - 74.84° above ground
0.033374 > -30.550853 - 65.49° above ground
0.037182 > -36.199678 - 56.13° above ground
0.033956 > -43.221120 - 46.78° above ground
0.023670 > -54.422565 - 37.42° above ground
0.008635 > -105.116560 - 28.07° above ground
0.025492 > 154.139351 - 18.71° above ground
0.063318 > 139.802608 - 9.36° above ground
0.129087 > 132.686936 - 0.00° above ground

Tower 6
0.000000 > 0.000000 - 84.20° above ground
0.020970 > -94.694874 - 74.84° above ground
0.032093 > -95.299693 - 65.49° above ground
0.036141 > -95.933066 - 56.13° above ground
0.032860 > -96.668993 - 46.78° above ground
0.021931 > -97.847723 - 37.42° above ground
0.003082 > -110.541361 - 28.07° above ground
0.024452 > 85.073134 - 18.71° above ground
0.061280 > 83.679751 - 9.36° above ground
0.122479 > 83.000784 - 0.00° above ground

Mode 2
Tower 1
0.000000 > 0.000000 - 84.20° above ground
0.036111 > -68.476409 - 74.84° above ground
0.053255 > -69.685022 - 65.49° above ground
0.057673 > -71.196322 - 56.13° above ground
0.050103 > -73.223462 - 46.78° above ground
0.031091 > -76.994930 - 37.42° above ground
0.003434 > -152.229877 - 28.07° above ground
0.041328 > 111.439218 - 18.71° above ground
0.095510 > 107.680476 - 9.36° above ground
0.183779 > 105.550124 - 0.00° above ground
Tower 2
0.000000 > 0.000000 - 84.20° above ground
0.017607 > -5.789115 - 74.84° above ground
0.026255 > -8.524705 - 65.49° above ground
0.028722 > -11.545036 - 56.13° above ground
0.025210 > -15.269403 - 46.78° above ground
0.015932 > -21.798832 - 37.42° above ground
0.003038 > -93.137980 - 28.07° above ground
0.020598 > 173.085875 - 18.71° above ground
0.047624 > 166.541925 - 9.36° above ground
0.091642 > 162.940965 - 0.00° above ground
Tower 3
0.000000 > 0.000000 - 84.20° above ground
0.737441 > -4.002443 - 74.84° above ground
1.326260 > -3.712290 - 65.49° above ground
1.850801 > -3.408704 - 56.13° above ground
2.306283 > -3.078117 - 46.78° above ground
2.685074 > -2.707737 - 37.42° above ground
2.978891 > -2.279736 - 28.07° above ground
3.180279 > -1.765673 - 18.71° above ground
3.283093 > -1.118534 - 9.36° above ground
3.269050 > 0.000000 - 0.00° above ground

Tower 4
0.000000 > 0.000000 - 84.20° above ground
0.627376 > 123.476949 - 74.84° above ground
1.134839 > 123.918402 - 65.49° above ground
1.587496 > 124.361542 - 56.13° above ground
1.978501 > 124.817102 - 46.78° above ground
2.298782 > 125.294478 - 37.42° above ground
2.539146 > 125.809328 - 28.07° above ground
2.691437 > 126.389424 - 18.71° above ground
2.748698 > 127.084565 - 9.36° above ground
2.681818 > 128.241306 - 0.00° above ground
Tower 5
0.000000 > 0.000000 - 84.20° above ground
0.569478 > -112.209643 - 74.84° above ground
1.018143 > -112.410945 - 65.49° above ground
1.406932 > -112.616227 - 56.13° above ground
1.730031 > -112.827273 - 46.78° above ground
1.979589 > -113.046327 - 37.42° above ground
2.147533 > -113.279725 - 28.07° above ground
2.226301 > -113.541010 - 18.71° above ground
2.208496 > -113.857177 - 9.36° above ground
2.043038 > -114.410178 - 0.00° above ground
Tower 6
0.000000 > 0.000000 - 84.20° above ground
0.333794 > 111.497443 - 74.84° above ground
0.600156 > 110.675579 - 65.49° above ground
0.835308 > 109.829660 - 56.13° above ground
1.036302 > 108.926150 - 46.78° above ground
1.199032 > 107.932811 - 37.42° above ground
1.319330 > 106.802816 - 28.07° above ground
1.393578 > 105.459321 - 18.71° above ground
1.418846 > 103.769448 - 9.36° above ground
1.380325 > 100.827554 - 0.00° above ground

FIELD INFORMATION - DAY		
	Field Ratio	Field Phase
Tower 1	1.0000	0.0000
Tower 2	0.7200	-125.0000
Tower 3	0.9000	125.0000
Tower 4	0.6500	0.0000

FIELD INFORMATION - NIGHT		
	Field Ratio	Field Phase
Tower 3	1.0000	0.0000
Tower 4	0.9300	128.0000
Tower 5	0.7800	249.0000
Tower 6	0.4700	109.0000

TOWER DRIVE INFORMATION - DAY					
	Field Ratios	Field Phase	Drive Imped. (Ω)	Current	Power (W)
Tower 1	1.0000	0.0000	22.89 + j29.67	6.21 ∠ 0.00	882.6853
Tower 2	0.7200	-125.0000	-14.89 + j71.79	4.16 ∠ -128.69	-257.0424
Tower 3	0.9000	125.0000	-3.20 - j6.84	6.22 ∠ 122.57	-123.9661
Tower 4	0.6500	0.0000	34.48 + j36.60	3.81 ∠ 1.32	499.6924

TOWER DRIVE INFORMATION - NIGHT					
	Field Ratios	Field Phase	Drive Imped. (Ω)	Current	Power (W)
Tower 3	1.0000	0.0000	22.37 + j20.49	3.27 ∠ 0.00	239.0564
Tower 4	0.9300	128.0000	21.90 + j41.92	2.68 ∠ 128.24	157.4827
Tower 5	0.7800	249.0000	-11.01 + j102.59	2.04 ∠ -114.41	-45.9390
Tower 6	0.4700	109.0000	-57.43 + j44.48	1.38 ∠ 100.83	-109.4264

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EL SOL BROADCASTING, LLC
WJTI AM RADIO STATION
1460 kHz - 0.24/1.0 KW DA2
WEST ALLIS, WISCONSIN
November 2009

EXHIBIT #5

Summary of Post-Construction Certified Array Geometry

The tower relative distance, provided in feet on the Certified Survey drawing, (Exhibit #5A) are converted to electrical degrees at 1460 kHz and used, along with the survey tower azimuths relative to True North, to calculate the distance in electrical degrees from the location specified in the theoretical directional antenna pattern array geometry.

The "as built" tower displacements from their specified locations expressed in electrical degrees at carrier frequency, which corresponds to space phasing differences in the far-field radiation pattern of the array, are well below the +/- 3 degree operating phase range specified for antenna monitor parameters by the FCC's rules. By reference to the FCC Public Notice, DA 09-2340, October 29, 2009, "The tolerance is represented by a circle with a radius of 1.5 electrical degrees at the AM station's frequency around each tower location, as specified on the construction permit." 1.5 degrees at 1460 kHz is 2.8 feet. The "as built" facility is well within this tolerance.

EXHIBIT

November 10, 2009

LEGAL DESCRIPTION:

Parcel 2 of Certified Survey Map No. 6716 being a part of the Southeast 1/4 Section 5, Township 6 North, Range 21 East, City of West Allis, Milwaukee County, Wisconsin.

1935 S. 98th Street, West Allis, Wisconsin

Revised: November 16, 2009

**EXHIBIT #5A
APPLICATION FOR STATION LICENSE
EL SOL BROADCASTING, LLC
WJTI AM RADIO STATION
1460 kHz - 0.24/1.0 KW DA2
WEST ALLIS, WISCONSIN
November 2009**

North Witness Monument
NW Corner, SE 1/4
Sec. 5, T6N, R2E
Conc. Mon. w/Brass Cap

NW Corner, SE 1/4
Sec. 5, T6N, R2E

4N

3N

2N, 3D   1D

1N, 4D   2D

LINE TABLE		
LINE	LENGTH	BEARING True North
1d—2d	122.60'	S 25°01'02" W
1d—3d	104.84'	S 89°59'57" W
1d—4d	192.28'	S 54°39'24" W
1n—2n	122.79'	N 25°03'25" E
1n—3n	245.31'	N 25°00'47" E
1n—4n	367.96'	N 25°02'10" E

SW Corner, SE 1/4
Sec. 5, T6N, R2E
Conc. Mon. w/Brass Cap

(N 89°16'23" E True North)
(N 87°55'27" E Grid North)

= Tower
D=Day
N=Night

Horizontal Datum is based on the Wisconsin State Plane Coordinate System Grid, South Zone (NAD-27) and the bearings have been rotated 01°20'56" to reference True North per the Control Summary Diagram for Section Surveys in the City of West Allis, Milwaukee County, Wisconsin with a revision date of August, 2009

DRAWING BY: ST

WJTI   1460   West Allis   WI

Daytime Array

Moment Calculation Tower	FCC Array Tower	Antenna Monitor Tower	Spacing Degrees	Bearing True	Tower Ref.
1 (ne)	1	6	0.0	0	1
2 (se)	2	5	65.5	205	1
3 (center sw)	3	2	56.2	270	1
4 (sw)	4	1	65.5	205	3
5 (center nw)		3			
6 (nw)		4			

Convert to Tower 1 Reference

Moment Calculation Tower	FCC Array Tower	Antenna Monitor Tower	Spacing Degrees	Feet	Bearing True	Tower Ref.
1 (ne)	1	6	0.0	0.00	0.00	1
2 (se)	2	5	65.5	122.66	205.00	1
3 (center sw)	3	2	56.2	105.24	270.00	1
4 (sw)	4	1	102.8	192.51	234.70	1
5 (center nw)		3				
6 (nw)		4				

Survey Tower Designation

Tower	Spacing (feet)	Azimuth DD-MM-SS	Degrees True (DD.ddd)	Variance From Specification Spacing (feet)	Azimuth (Deg. True)	(feet)
1d	0.00	0.0	0.0	0.00	0.00	0.00
2d	122.60	S 25°01'02" W	205.02	0.06	0.02	0.06
3d	104.84	S 89°59'57" W	270.00	0.40	0.00	0.00
4d	192.28	S 54°39'24" W	234.66	0.23	0.04	0.18

WJTI   1460   West Allis   WI

Nighttime Array

Tower	FCC Nighttime Array	Antenna Monitor Tower	Spacing Degrees	Bearing True	Tower Ref.
1 (ne)		6			
2 (se)		5			
3 (center sw)	2	2	65.50	25.00	1
4 (sw)	1	1	0.00	0.00	1
5 (center nw)	3	3	131.00	25.00	1
6 (nw)	4	4	196.50	25.00	1

Convert to Tower 1 Reference

Tower	FCC Daytime Array	Antenna Monitor Tower	Spacing Degrees	Feet	Bearing True	Tower Ref.
1 (ne)		6				
2 (se)		5				
3 (center sw)	2	2	65.50	122.66	25.00	1
4 (sw)	1	1	0.00	0.00	0.00	1
5 (center nw)	3	3	131.00	245.31	25.00	1
6 (nw)	4	4	196.50	367.97	25.00	1

Survey Tower Designation

Survey Tower Designation				Variance From Specification		
Tower	Spacing (feet)	Azimuth DD-MM-SS	Degrees True (DD.ddd)	Spacing (feet)	Azimuth (Deg. True)	(feet)
2n	122.79	N 25°03'25" E	25.06	0.13	0.06	0.02
1n	0.00	0.0	0.00	0.00	0.00	0.00
3n	245.31	N 25°00'47" E	25.01	0.00	0.01	0.00
4n	367.96	N 25°02'10" E	25.04	-0.01	0.04	0.02

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EXHIBIT #6

Reference Field Strength Measurements

Reference field strength measurements were made using a Potomac Instruments field strength meter of known calibration at three locations along radials at the azimuths, with radiation values specified on the construction permit and on the major lobe radial(s) for the directional pattern. The tabulated measured field strengths and descriptions and GPS coordinates for the reference measurement points are attached as Exhibit #6A.

WJTI 1460 kHz West Allis WI
Day

Radial (°T)	Point #	N. Latitude	W. Longitude	mv/m	Distance (km)	Time (24 hr)	Description
Radial Specified in Construction Permit							
52.5	1	43° 01' 34"	88° 00' 08"	32.00	3.22	14:50	X 73rd Main N side
52.5	2	43° 02' 11"	87° 59' 09"	19.50	5.01	14:56	X 59th Bluemound N side
52.5	3	43° 02' 40"	87° 58' 16"	15.00	6.52	15:05	Median Martin Dr 75' E 46th
Major Lobe Radial							
148.0	1	42° 58' 28"	88° 00' 21"	94.00	4.51	15:26	X 74th Tripoli
148.0	2	42° 58' 04"	88° 00' 00"	6.20	5.39	15:23	X 70th Plainfield
148.0	3	42° 57' 33"	87° 59' 36"	4.50	6.49	15:15	X 63rd Layton S Side by driveway
Radial Specified in Construction Permit							
288.5	1	43° 01' 09"	88° 04' 38"	15.50	3.62	15:50	Elm Grove across from double door garage
288.5	2	43° 01' 17"	88° 05' 14"	10.00	4.46	16:00	X Sunny Slope Tremont W side
288.5	3	43° 01' 43"	88° 06' 52"	3.50	6.82	16:10	Executive Drive X two parking lot drives W side

Geographic Coordinates in NAD '83 Datum
Latitude and Longitude format : DD-MM-SS
All Daytime measurements taken on 11-18-09

EXHIBIT #6B
APPLICATION FOR STATION LICENSE
EL SOL BROADCASTING, LLC
WJTI AM RADIO STATION
1460 kHz - 0.24/1.0 KW DA2
WEST ALLIS, WISCONSIN
November 2009

WJTI   1460 kHz   West Allis   WI
Night
Major Lobe Radial

Radial	#	Latitude	Longitude			Time	Location
25.0	1	43° 02' 19"	88° 00' 59"	49.00	3.62	12:11	X Robertson Wisconsin
25.0	2	43° 02' 53"	88° 00' 34"	27.00	4.83	12:14	100' S X Dewey Hardwood E Driveway
25.0	3	43° 03' 39"	88° 00' 06"	16.00	6.36	12:18	X 72 North 100' E center of rd
Radial Specified in Construction Permit							
104.0	1	43° 00' 03"	87° 59' 15"	6.80	3.96	12:31	2429 S 60th
104.0	2	42° 59' 55"	87° 58' 37"	10.50	4.86	12:35	X 51st Jackson
104.0	3	42° 59' 47"	87° 57' 57"	5.40	5.76	12:38	By Lake on road
Radial Specified in Construction Permit							
154.0	1	42° 58' 58"	88° 01' 03"	13.00	3.22	12:49	X 84th Holt
154.0	2	42° 58' 25"	88° 00' 42"	6.90	4.35	12:52	Front 7901 W Howard
154.0	3	42° 57' 59"	88° 00' 25"	7.60	5.21	12:55	Front 7435 W Cold Spring
Radial Specified in Construction Permit							
256.0	1	43° 00' 03"	88° 04' 47"	5.00	3.80	13:08	N end 134th at bend
256.0	2	42° 59' 53"	88° 05' 35"	2.80	4.84	13:13	Front of driveway island Meadowmere
256.0	3	42° 59' 50"	88° 05' 44"	1.50	5.07	13:15	100' N Brookland Glendale
256.0	4	42° 59' 37"	88° 06' 50"	2.20	6.61	13:21	W side Driveway S 160th
Radial Specified in Construction Permit							
306.0	1	43° 01' 57"	88° 04' 46"	12.30	4.47	13:51	X Bishops Way Bishops Ct
306.0	2	43° 02' 26"	88° 05' 40"	4.50	6.02	13:48	X madera San Jose
306.0	3	43° 02' 40"	88° 06' 06"	4.30	6.71	13:43	X Terrace Red Fox

Geographic Coordinates in NAD '83 Datum
Latitude and Longitude format : DD-MM-SS
All Nighttime measurements taken on 11-19-09

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EXHIBIT #7

Direct Measurement of Power

WJTI will operate with a daytime common point impedance of 50.0 Ohms - J 13.0 Ohms.

WJTI will operate with a nighttime common point impedance of 50.0 Ohms - J 8.8 Ohms. Due

to the directional antenna operation, the common point input power is adjusted with reference to

the transmitted power in accordance with Section 73.51(b)(1)[1]. Adjusting the input power by

1.08 results in the following:

Daytime

1,000 Watts X 1.08 = 1,080 Watts

Common Point Resistance = 50.0

Manipulating I2R = P
Where I = Common Point Current   R = Common Point Resistance   P = Power in Watts

$I = (1{,}080/50.)^{.5} = 4.65$ Amps at Common Point

---

1)   Section73.51 Determining operating power. (b) The authorized antenna input power for each station shall be equal to the nominal power for such station, with the following exceptions: (1) For stations with nominal powers of 5 kilowatts, or less, the authorized antenna input power to directional antennas shall exceed the nominal power by 8 percent.

Nighttime

240 Watts X 1.08 = 259.2 Watts

Common Point Resistance = 50.0

Manipulating I2R = P
Where I = Common Point Current   R = Common Point Resistance   P = Power in Watts

I = (259.2/50.0)$^{.5}$ = 2.28 Amps at Common Point

Common Point Impedance was measured utilizing an Array Solutions, POWER AIM 120, Vector Impedance Analyzer in a calibrated measurement system.

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EXHIBIT #8

Sampling System Measurements

Impedance measurements of the antenna monitor sampling system were made using an Array Solutions, POWER AIM 120, Vector Impedance Analyzer in a calibrated measurement system. The measurements were made looking into the antenna monitor ends of the sampling lines without the sampling lines connected to the toroid samples under open-circuited conditions.

The following table shows the measured line length and impedance of each sample line in the system. The sampling line lengths were found to be between 166.70 and 167.14 electrical degrees, within the 1.0 degree variance as specified by Section 73.151(c)(2)(i).

In order to determine the characteristic impedance values of the sampling lines, open-circuit measurements were made with frequencies offset to produce +/- 45 degrees of electrical length from resonance. The characteristic impedance was calculated using the following formula where $R_1 + jX_1$ and $R_2 + jX_2$ are the measured impedances at the +45 and -45 degree offset frequencies, respectively:

$$Z0 = ((R_1^2 + X_1^2)^{\frac{1}{2}} * (R_2^2 + X_2^2)^{\frac{1}{2}})^{\frac{1}{2}}$$

Toroid Current Transformer calibration was checked by placing all transformers in line with the output of the 1460 kHz transmitter into a dummy load. The transformers were connected to the station antenna monitor with short equal length transmission line jumpers. The relative ratio and phase of all transformers was found to be identical. The current transformers were returned to their respective towers.

The impedance of the sample lines and toroid transformers together was measured and are tabulated below.

WJTI   1460 West Allis   MI

Tower Sample Line	Calculated Electrical Length at 1550 kHz (degrees)	Measured Operating Impedance
1 (ne)	166.86	51.20
2 (se)	166.70	51.70
3 (center sw)	166.78	51.70
4 (sw)	166.86	51.60
5 (center nw)	167.14	51.10
6 (nw)	166.74	51.40

Longest Line Minus Shortest Line - 0.44° difference @ 1460 kHz

Impedance +/- 0.3 Ohms

Tower Sample System	Resistance (ohms)	Reactance (ohms)
1 (ne)	48.90	1.70
2 (se)	49.20	1.20
3 (center sw)	49.30	1.50
4 (sw)	49.20	1.30
5 (center nw)	48.90	2.00
6 (nw)	49.00	1.80

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EXHIBIT #9

Phasing and Filter System Configuration

The station phasing system is constructed as shown in the attached schematic system for both daytime and nighttime direcitonal arrays. Due to the co-location of WJTI, 1460 kHz, and WGLB, 1560 kHz, it is necessary to further isolate the phasing system from the co-located station. In the WJTI phasing schematic, a single filter is shown at the input to the common point system that passes 1460 kHz, while rejecting 1560 kHz. Also attached are representative filter schematics installed at the input to the tower radiators.

WGLB Filters

Filter cabinets for Towers #1 through #6 are installed at the output of the WGLB, 1560 kHz ATU's, which pass 1560 kHz and reject 1460 kHz. Further, at the input to the WGLB phasor a single filter further isolates WJTI from the WGLB transmitter, passing 1560 kHz, while rejecting 1460 kHz.

WJTI Filters

In addition to the above noted filter in the WJTI phasing system, filter cabinets were installed at Towers #1 through #6 which pass 1460 kHz and reject 1560 kHz.

Field Measurements

Attached is a tabulation of field measurements conducted at the reference frequencies of 1460 kHz and 1560 kHz, along with calculated spur frequencies of 1360 kHz, 1660 kHz, 4480 kHz, and 4580 kHz. The spur frequency levels are equal to or greater than 73 dB, down from the WJTI carrier on 1460 kHz and equal to or greater than 67 dB, down from the WGLB carrier on 1560 kHz, as defined by Section 73.44. Field measurements were taken at approximately 1.0 mile (1.61 kilometer) from the array. Spur frequencies were checked using a Potomac Instruments FIM-41. At each spur frequency no measurable signal was found and was assumed (for calculations) to be 0.005 mV/m.
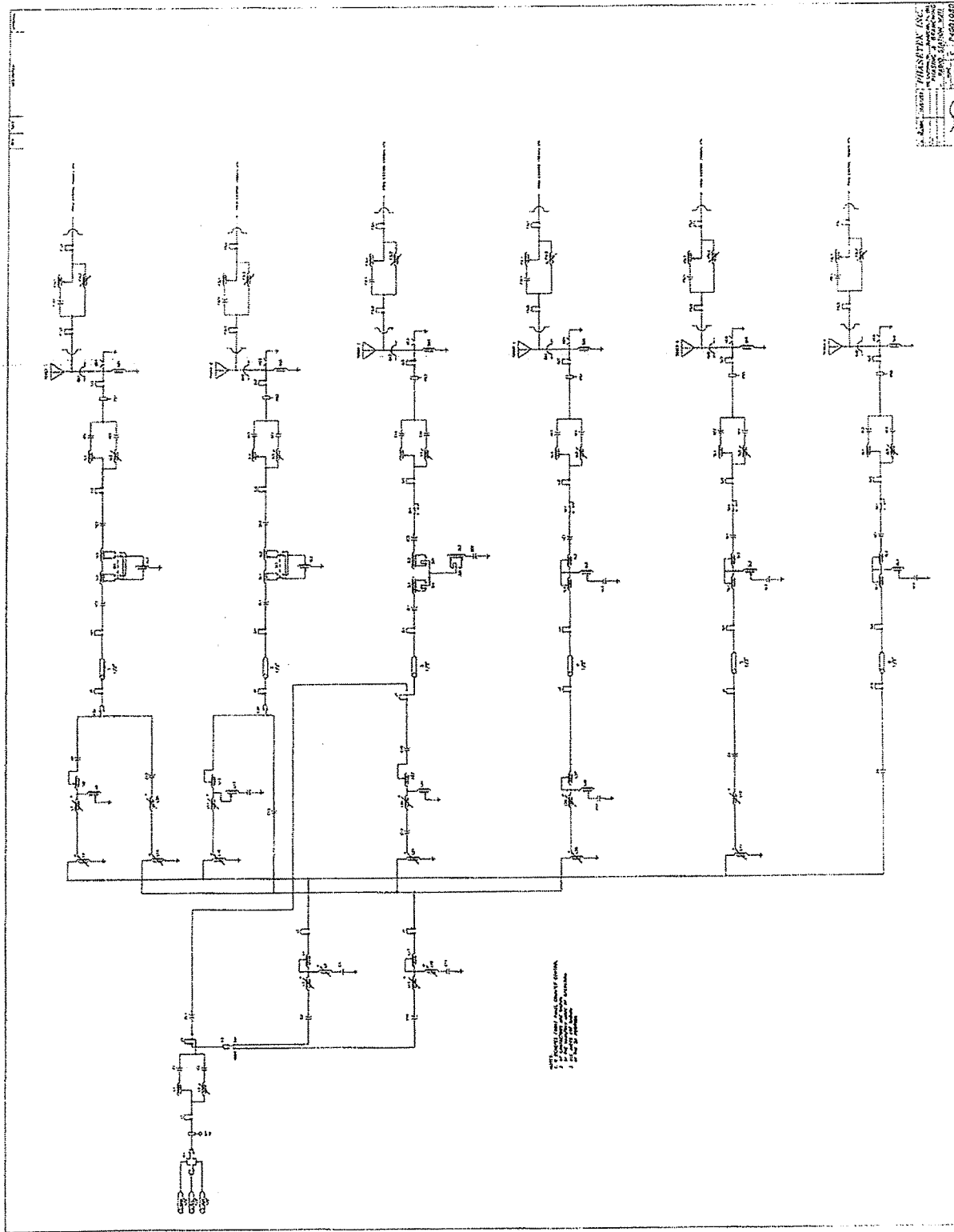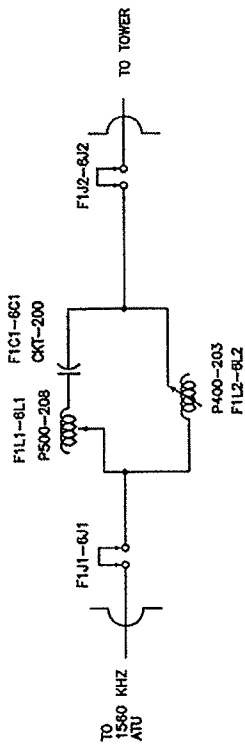
EXHIBIT #9A
APPLICATION FOR STATION LICENSE
EL SOL BROADCASTING, LLC
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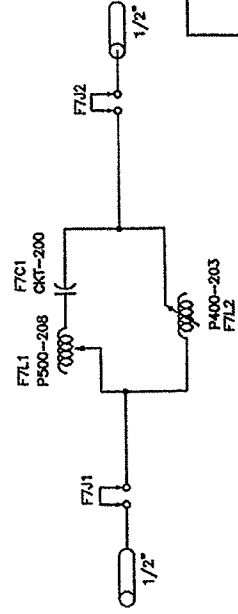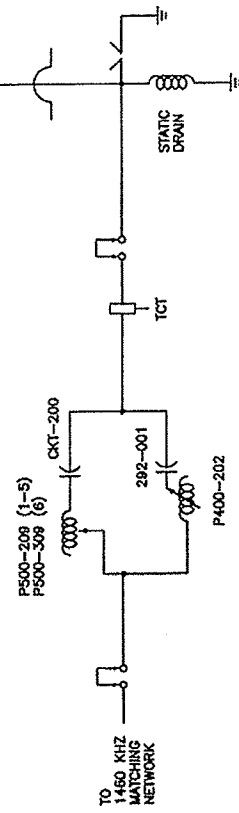**1460 kHz - 0.24/1.0 KW DA2**
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TOWERS 1-6

STATIC DRAIN

TCT

1460 KHZ LTU OUTPUTS

PASS 1460 IKHZ
REJECT 1560 KHZ

CKT-200

P500-209 (1-5)
P500-309 (6)

292-001

P400-202

TO
1460 KHZ
MATCHING
NETWORK

FILTER CABINET TOWERS 1-6

PASS 1560 KHZ
REJECT 1460 KHZ

F1C1-6C1
CKT-200

F1L1-6L1
P500-208

P400-203
F1L2-6L2

F1J2-6J2

TO TOWER

F1J1-6J1

TO
1560 KHZ
ATU

COMMON POINT FILTER

PASS 1560 KHZ
REJECT 1460 KHZ

F7C1
CKT-200

F7L1
P500-208

P400-203
F7L2

F7J2

1/2"

F7J1

1/2"

DESCRIPTION   APPROVED   DATE   DWG.

WJTI   WGLB

Frequencies (MHz)   §73.44 db Attenuation =
| 1.46 | | 1.56 | <65 db minimum <80 db maximum
                                     or
Station Power (kW)   43+10LOG(power in watts)
| 1.00 | | 0.25 |

Spur Requirement (db down from carrier)
| 73.00 | | 66.98 |

| Carrier | Frequency | Signal Level Measured | |
		given mV/m	calc db
WJTI	1.46	46	93.3
WGLB	1.56	18	85.1

WJTI

| Intermod Calculation | Product Frequency | Intermod Signal Level Required | | | Result |
		calc db	meas mV #	Result db	db down
2A-B	1.36 *	20.3	0.005	14.0	79.3
2B-A	1.66 *	20.3	0.005	14.0	79.3
2A+B	4.48 *	20.3	0.005	14.0	79.3
2B+A	4.58 *	20.3	0.005	14.0	79.3

WGLB

| Intermod Calculation | Product Frequency | Intermod Signal Level Required | | | Result |
		calc db	meas mV #	Result db	db down
2A-B	1.36 *	18.1	0.005	14.0	71.1
2B-A	1.66 *	18.1	0.005	14.0	71.1
2A+B	4.48 *	18.1	0.005	14.0	71.1
2B+A	4.58 *	18.1	0.005	14.0	71.1

* - Frequency Required by FCC
# - Signal Unmeasureable, assumed less than 0.005 mV/m

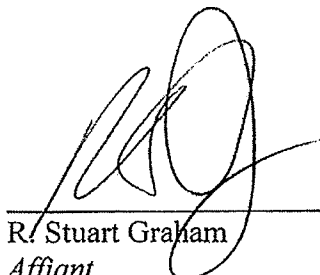# AFFIDAVIT AND QUALIFICATIONS OF CONSULTANT

State of Georgia)
St. Simons Island) ss:
County of Glynn)

R. Stuart Graham, being duly sworn, deposes and says that he is an officer of Graham Brock, Inc. Graham Brock has been engaged by El Sol Broadcasting, LLC, to prepare the attached Technical Exhibit.

His qualifications are a matter of record before the Federal Communications Commission. He has been active in Broadcast Engineering since 1979.
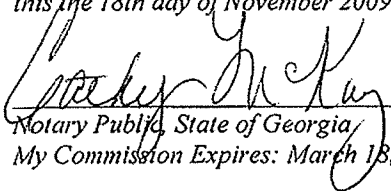
The attached report was either prepared by him or under his direction and all material and exhibits attached hereto are believed to be true and correct.

This the 18th day of November 2009.

R. Stuart Graham
Affiant

Sworn to and subscribed before me
this the 18th day of November 2009

Notary Public, State of Georgia
My Commission Expires: March 18, 2011